

CLAIMS:

1. A method for applying solder to a material deposition surface comprising the steps of:
5 aligning apertures within a solder stencil and respective target areas on a material deposition surface;
passing solder across a plurality of apertures;
cleaning the solder stencil using an under wipe stencil cleaner, and at least one of:
10 a) applying vibrational energy through the air directed at the apertures to assist in a release process,
b) applying vibrational energy to a solder applicator,
15 c) applying vibrational energy to assist in a cleaning process, and
d) applying vibrational energy to assist in a drying process.
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2. The method of Claim 1, wherein the vibrational energy is ultrasonic.
3. The method of Claim 1, the method further
25 comprising the step of applying a fluid to the stencil during the cleaning process.
4. The method of Claim 3, the method further comprising wiping the stencil with an under wipe paper.

5. The method of Claim 4, the method further comprising the steps of:
- applying a fluid to the under wipe paper,
 - passing the wet under wipe paper across the
 - 5 apertures wherein a portion of the fluid is released within the apertures, and
 - applying vibrational energy wherein the vibrational energy excites the fluid within the apertures to assist in cleaning the stencil.
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6. The method of Claim 1, the method further comprising the step of applying a vacuum to the under wipe cleaning process.
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7. The method of Claim 1, wherein the method comprises applying vibrational energy for at least one of cleaning and drying the solder stencil, the method further comprising the step of applying the vibrational energy by at least one of through air and through a vibrational
- 20 interface medium.
8. An apparatus for applying solder to a material deposition surface, the apparatus comprising:
- a mechanism for aligning a target area on the
 - 25 material deposition surface of an object to apertures of a stencil,
 - a mechanism for placing at least one of solder spheres and solder paste into the apertures of the stencil,
 - 30 a mechanism for cleaning the stencil,

a vibrational energy source for applying
vibrational energy for at least one of:

- a) a mechanism for placing at least one of
solder spheres and solder paste into the
apertures of the stencil,
- b) cleaning the stencil, and
- c) drying the stencil.

9. The apparatus of Claim 8 wherein the vibrational
energy is applied through air.

10. The apparatus of Claim 8 wherein the vibrational
energy is applied through vibrational interface medium.

11. The apparatus of Claim 8 wherein the apparatus
further comprises a fluid application member, wherein
the fluid application member applies fluid to the
cleaning system.

12. The apparatus of Claim 8 wherein the vibrational
energy is transferred to the fluid.

13. An apparatus for applying a printable medium to a
material deposition surface, the apparatus comprising:
a mechanism for aligning a target area on the
material deposition surface of an object to apertures of
a stencil,
a mechanism for placing a printable medium into the
apertures of the stencil,
a mechanism for cleaning the stencil,

a vibrational energy source for applying
vibrational energy for at least one of:

- d) a mechanism for placing at least one of
solder spheres and solder paste into the
5 apertures of the stencil,
- e) cleaning the stencil, and
- f) drying the stencil.

14. The apparatus of Claim 13 wherein the vibrational
10 energy is applied through air.

15. The apparatus of Claim 13 wherein the vibrational
energy is applied through vibrational interface medium.

15 16. The apparatus of Claim 13 wherein the apparatus
further comprises a fluid application member, wherein
the fluid application member applies fluid to the
cleaning system.

20 17. The apparatus of Claim 16 wherein the vibrational
energy is transferred to the fluid.

18. The apparatus of Claim 13 wherein the object is a
Fabric and wherein the apparatus is designed to hold and
25 align the fabric to the stencil.

19. The apparatus of Claim 13, the apparatus further
comprising a vacuum system.

20. The apparatus of Claim 16, the apparatus further comprising a vacuum system.